REMARKS

In the Office Action of May 20, 2005, claims 1-20 are pending. Claims 1, 13, and 17 are independent claims from which all other claims depend therefrom. Claims 1, 6, 8, 13, and 17 are herein amended. Claim 7 is herein canceled. Claim 21 is newly added.

Claims 1-6, 8-10, 12, and 17-20 stand rejected under 35 U.S.C. 102(a) as being anticipated by Yokota et al. (U.S. Pat. No. 6,560,520).

Amended claim 1 recites an adaptive collision load path modification system for a vehicle that includes object detection sensors that generate object detection signals. A structural stiffness-adjusting device is coupled within a frame rail of the vehicle. A controller activates the structural stiffness-adjusting device in response to the object detection signals. The structural stiffness-adjusting device includes an outer body that is at least partially filled with a magneto-rheological material that stiffens the frame rail when activated.

In paragraph 4, the Office Action states that Yokota fails to disclose a magneto-rheological material. Applicants agree.

In order for a reference to anticipate a claim the reference must teach or suggest each and every element of that claim, see MPEP 2131 and *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628. Thus, since each and every element of claim 1 is not taught or suggested by Yokota, Applicant submits that claim 1 is novel, nonobvious, and is in a condition for allowance. Also, since claims 2-6, 8-10, and 12 depend from claim 1, they are also novel, nonobvious, and are in a condition for allowance for at least the same reasons.

Amended claim 17 recites a method of modifying collision load paths of a vehicle. The method includes generating object detection signals in response to an object external from the vehicle. An object parameter including object size and/or object weight is determined in response to the object detection signals. A structural stiffness-adjusting device within a frame rail of the vehicle is activated in response to the object parameter.

In paragraph 2, the Office Action states that Yokota discloses a controller activating a stiffness-adjusting device in response to a collision object parameter selected from speed, weight, location, and size. The Office Action refers to the weight sensor, the seat sliding sensor, and the occupant position sensor of Yokota. Although Yokota discloses an occupant seating information detecting means 80, Yokota fails to disclose a device for determining size and weight of an object that is external to a vehicle. Also, since such a determination is not taught or suggested by Yokota, Yokota also fails to teach or suggest the activation of a structural stiffness-adjusting device in response thereto.

Thus, Yokota also fails to teach or suggest each and every limitation of claim 17, therefore, claim 17 is novel, nonobvious, and is in a condition for allowance. Since claims 18-20 depend from claim 17, they too are novel, nonobvious, and are in a condition for allowance for at least the same reasons.

Claim 7 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Yokota in view of Brown (U.S. Pat. No. 6,036,226). Note that claim 7 has been herein canceled.

In paragraph 4, the Office Action states that Brown teaches a stiffness-adjusting device comprising an outer body filled with magneto-rheological material for inflating a device. Regardless of whether this is true, Applicants submit that Brown fails to teach or suggest the use of a magneto-rheological material to stiffen a vehicle structure, such as a frame rail, as claimed in claim 1.

The magneto-rheological fluid 83 of Brown is used to control the inflation rate of an airbag 12. The magneto-rheological fluid 83 is not used in and of itself to stiffen a frame rail, but rather is used to adjust the retarding force on the piston 30. Thus, Brown also fails to teach or suggest the limitations of a structural stiffness-adjusting device that includes an outer body, which is at least partially filled with a magneto-rheological material that stiffens a frame rail, as recited in claim 1. Therefore, claim 1 is also novel,

nonobvious, and is in a condition for allowance in view of both Yokota and Brown.

Claims 11, 13, and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Yokota in view of Wong (U.S. Pat. No. 3,871,471).

Applicants submit that since claims 11 and 18 depend from claims 1 and 17, respectively, that they are novel, nonobvious, and are in a condition for allowance for at least the same reasons.

Amended claim 13 recites an adaptive collision load path modification system for a vehicle. The system includes a tire deflation apparatus and an electronic controller. The controller activates the tire deflation apparatus to at least partially deflate a tire on the vehicle in response to object detection signals.

The Office Action states that Yokota fails to disclose a tire deflation apparatus. Applicants agree. The Office Action, however, states that Wong teaches a tire deflation apparatus and as a result it would have been obvious to combine Wong with Yokota. Applicants, respectfully, traverse.

Although Wong discloses a tire deflation apparatus, the apparatus is manually operated via a vehicle operator not by an electronic controller. When the vehicle operator determines that there is an impending imminent collision situation or that the vehicle braking system has failed, the vehicle operator may deflate a pair of tires via a switch. Thus, Wong, like Yokota, fails to disclose an electronic controller for the activation of a tire deflation apparatus. In addition, Wong fails to disclose object detection sensors and the activation of tire deflation apparatuses in response to object detection signals.

Referring to MPEP 2143, to establish a prima facie case of obviousness, there must be some suggestion or motivation provided to combine and modify the references to arrive at the claimed invention and that the suggestion must be found in the prior art and not in Applicants' disclosure. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Also, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the

combination. See *In re Mills*, 916 F. 2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Applicants submit that no motivation to combine and modify the stated references exists in either of the stated references nor has any objective reason been put forth to combine and modify the stated references as needed to arrive at the present invention. There is no motivation in Wong to use and modify the sensors and electronic control unit of Yokota and there is no motivation in Yokota to use the tire deflation apparatus of Wong. Besides it is not clear how the system of Yokota and the apparatus of Wong would be altered and combined, especially without review of the present application. Thus, Applicants submit that to assert that the motivation does exist would be the use of improper hindsight reasoning in view of the present application.

Referring to MPEP 706.02(j) and 2143, to establish a *prima facie* case of obviousness the prior art references must teach or suggest all the claim limitations. Since Yokota and Wong alone or in combination fail to teach or suggest each and every element of claim 13, it is also novel, nonobvious, and is in a condition for allowance. Since claim 14 depends from claim 13, it too is novel, nonobvious, and is in a condition for allowance for at least the same reasons. Note that claim 14 was not argued in the Office Action.

Claims 15 and 16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Yokota and Wonig in view of Kolassa et al. (U.S. Pat. No. 6,290,019).

Applicants submit that since claims 15 and 16 depend from claim 13, that they are novel, nonobvious, and are in a condition for allowance for at least the same reasons.

The Office Action states that Yokota and Wong fail to disclose a pyrotechnic element. Applicants agree. However, the Office Action states that Kolassa teaches a pyrotechnic element. Although Kolassa discloses the use of a pyrotechnic device to deflate a tire in response to signals from vehicle rollover sensors, Kolassa, like Yokota and Wong, fails to disclose the use of a pyrotechnic device to deflate a tire in response to object detection signals. There is no suggestion in any of the stated references for the activation of tire

deflation apparatuses in response to object detection signals or object parameters contained therein. Kolassa is directed to the devices and tasks used and performed in a rollover event not in a collision situation.

In light of the amendments and remarks, Applicants submit that all the rejections are now overcome. The Applicants have added no new matter to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments, the Examiner is respectfully requested to contact the undersigned attorney.

Respectfully submitted,

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